Ohio **Grade 8**

FlyBy Math™ Alignment
Academic Content Standards - Mathematics
Grade-Level Indicators

Number, Number Sense and Operations Standard

Computation and Estimation

Grade-Level Indicator	***FlyBy Math*™ Activities**
6. Estimate, compute and solve problems involving rational numbers, including ratio, proportion and percent, and judge the reasonableness of solutions.	--Use graphs to compare airspace scenarios for both the same and different starting conditions and the same and different constant (fixed) rates. --Predict outcomes and explain results of mathematical models and experiments.

Measurement Standard

Use Measurement Techniques and Tools

Grade-Level Indicator	***FlyBy Math*™ Activities**
6. Solve and determine the reasonableness of the results for problems involving rates and derived measurements, such as velocity and density, using formulas, models and graphs.	--Use the distance-rate-time formula to predict and analyze aircraft conflicts. --Use graphs to compare airspace scenarios for both the same and different starting conditions and the same and different constant (fixed) rates.
7. Apply proportional reasoning to solve problems involving indirect measurements or rates.	--Use graphs to compare airspace scenarios for both the same and different starting conditions and the same and different constant (fixed) rates.

Patterns, Functions and Algebra Standard

Use Patterns, Relations and Functions

Grade-Level Indicator	***FlyBy Math*™ Activities**
1. Relate the various representations of a relationship; i.e., relate a table to graph, description and symbolic form.	--Represent distance, speed, and time relationship for constant speed cases using tables, bar graphs, line graphs, equations, and a Cartesian coordinate system.

Use Algebraic Representation

Grade-Level Indicator	***FlyBy Math*™ Activities**
6. Describe the relationship between the graph of a line and its equation, including being able to explain the meaning of slope as a constant rate of change and y-intercept in real-world problems.	--Represent distance, speed, and time relationship for constant speed cases using linear equations and a Cartesian coordinate system.

	--Interpret the slope of a line in the context of a distance-rate-time problem.
7. Use symbolic algebra (equations and inequalities), graphs and tables to represent situations and solve problems.	--Use tables, graphs, and equations to solve aircraft conflict problems. --Represent distance, speed, and time relationship for constant speed cases using linear equations and a Cartesian coordinate system.
8. Write, simplify and evaluate algebraic expressions (including formulas) to generalize situations and solve problems.	--Use the distance-rate-time formula to predict and analyze aircraft conflicts.
10. Solve 2 by 2 systems of linear equations graphically and by simple substitution.	--Use graphs to compare airspace scenarios for both the same and different starting conditions and the same and different constant (fixed) rates.
13. Compute and interpret slope, midpoint and distance given a set of ordered pairs.	--Interpret the slope of a line in the context of a distance-rate-time problem.
Analyze Change	
Grade-Level Indicator 15. Describe and compare how changes in an equation affects the related graphs; e.g., for a linear equation changing the coefficient of *x* affects the slope and changing the constant affects the intercepts..	***FlyBy Math™* Activities** --Use graphs to compare airspace scenarios for both the same and different starting conditions and the same and different constant (fixed) rates. --Interpret the slope of a line in the context of a distance-rate-time problem.

Data Analysis and Probability Standard	
Data Collection	
Grade-Level Indicator 2. Evaluate different graphical representations of the same data to determine which is the most appropriate representation for an identified purpose; e.g., line graph for change over time, circle graph for part-to-whole comparison, scatterplot for relationship between two variants.	***FlyBy Math™* Activities** --Represent distance, rate, and time data using tables, line plots, bar graphs, and line graphs. --Choose among tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.
Statistical Methods	
Grade-Level Indicator 9. Construct convincing arguments based on analysis of data and interpretation of graphs.	***FlyBy Math™* Activities** --Explain and justify solutions regarding the motion of two airplanes using the results of plotting points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system.